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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/603,859

06/26/2003

Oren Kaidar

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EXAMINER

SOL, ANTHONY M

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/603,859	Applicant(s) KAIDAR ET AL.	
	Examiner ANTHONY SOL	Art Unit 2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/29/2008 has been entered.
- Claims 1-6, 8, 10-15, 17-20, and 22-25 have been amended.
- Claims 1-25 remain pending.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 6-12, and 15-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pub. No. US 2004/0029612 A1 ("Gorsuch") in view of U.S. Patent No. 6,898,198 B1 ("Ryan").

Regarding claims 1, 7-10, 16, 17, 19-21, and 23,

Gorsuch discloses scanning a first channel from a set of channels wherein the first channel is associated with a first access point 611A (para. 21, *the step of determining whether the first wireless communication mode is available is performed by passive **scanning**, such as by detecting a beacon signal*); receiving a packet on the first channel; determining if the received packet is an informational packet (para. 68, *A terminal 615, 617 can detect the **beacon frame** by waiting a minimum period of time equal to the beacon interval*); ending the scanning of the first channel and joining the first access point if the received packet is an informational packet (para. 69, *Alternatively, a terminal such as 615 may actively transmit a probe request frame. A wireless LAN base station 611 receiving such a probe request frame will respond with a probe response frame. Receipt of the probe response frame by the terminal 615 indicates **accessibility of the wireless LAN, and the terminal 615 will use the wireless LAN** and bypass the long range network*).

Gorsuch further discloses that the received packet is not an informational packet (para. 71, *Yet another alternative is simply to listen for **activity** on the wireless LAN 611*).

Gorsuch still further discloses scanning a second channel from the set of channels if said information indicates the first channel is not desirable, wherein the second channel is associated with a second access point (see paras. 16-24, particularly paras. 21 and 24; see also paras. 67-71; *If no activity is heard, the terminal 615, 617 assumes that the LAN is not accessible, and uses the long range communication system*).

Gorsuch does not disclose determining information regarding the first channel from the received packet.

Ryan disclosed a method implemented in a node of a wireless network for selecting the data rate for sending data to a remote node. The method includes receiving a packet from the remote node (claimed first access point), **determining a measure of signal quality for the received packet**; and selecting the data rate for communicating to the remote node. In one version, the data rate for communicating to the remote node is according to at least the determined signal quality. In another version, the measure of signal quality is sent to the remote node so that the remote node can communicate at a data rate dependent on the sent measure (Ryan, col. 2, lines 17-27).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the dual mode data communications of Gorsuch to provide an EVM calculator coupled to the receiver to determine a measure of the signal quality as taught by Goodall. One skilled in the art would have been motivated to make the combination since RSSI (as conventionally used) is not in itself a good indicator of signal quality. For example, a high RSSI signal in a strong multipath environment, such as in many indoor environments may in fact be signal of relatively low quality, albeit of high signal strength (Ryan, col. 1, lines 40-47).

Regarding claims 2, 11, 18, 22, and 24,

Gorsuch does not explicitly disclose that if a factor passes a threshold, determining the first channel is not desirable.

Ryan shows in Table 2 minimum EVM for each rate (col. 2, lines 1-15).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the dual mode data communications of Gorsuch to provide minimum EVM for each rate as taught by Ryan. One skilled in the art would have been motivated to make the combination to ensure signal quality between the station and the access point (Ryan, col. 2, lines 17-27).

Regarding claims 3, 12, and 25,

Gorsuch does not disclose determining if the number of retries is above a threshold.

Ryan discloses that as the PER increases, the retry rate increases, and moreover some packets have to be resent more than once, i.e., some of the retries have to be retried, so the effective throughput seen by the user drops. The AP dynamically **determines the point at which it is better to reduce the data rate**, which also reduces PER such that the throughput is improved (col. 10, lines 50-55).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the dual mode data communications of Gorsuch to provide a point at which to stop resending and reduce the data rate as taught by Ryan. One skilled in the art would have been motivated to make the combination to improve the throughput rate (Ryan, col. 10, lines 53-55).

Regarding claims 6 and 15,

Gorsuch does not explicitly disclose determining if the strength of a signal on the first channel is below a threshold.

Ryan discloses that if the EVM and RSSI indicate both high received signal quality and high received **signal strength**, but the data rate at which the remote node is transmitting is relatively low, the local node can inform the remote node that it may transmit at a higher data rate (col. 10, lines 23-27).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the dual mode data communications of Gorsuch to provide RSSI as taught by Ryan. One skilled in the art would have been motivated to make the combination in order to inform the remote node that it may transmit at a higher data rate (Ryan, col. 10, lines 23-27).

3. Claims 4 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gorsuch in view of Ryan, and further in view of Pub. No. US 2006/0092888 A1 ("Jeong").

Regarding claim 4 and 13,

Gorsuch and Ryan do not disclose determining if the percent of time the first channel is busy is above a threshold.

Jeong shows in fig. 6, determining if the medium is ever busy (para. 46).

It would have been *prima facie* obvious to one of ordinary skill in the art at the

time of the invention was made to modify the dual mode data communications of Gorsuch and the data rate selection method of Ryan to be able to determine a busy channel as taught by Jeong. One skilled in the art would have been motivated to make the combination to improve the throughput rate (Ryan, col. 10, lines 53-55).

4. Claims 5 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gorsuch in view of Ryan, and further in view of Pub. No. US 2005/0073979 A1 ("Barber").

Regarding claim 5 and 14,

Gorsuch and Ryan do not disclose determining if the number of active stations using the first channel is above a threshold.

Barber discloses that a radio mapping can further be used to promote load balancing between access points by causing an overloaded access point to disassociate one or more associated users, provided that such users can be "seen" or identified and therefore picked up by another nearby access point. The CCC can determine from the radio map that a given user can be seen by more than one access point either by noting that more than one access point is picking up transmissions from that user and can decode frames accurately. Alternatively, but probably not as reliably, the CCC can determine that the user can get service from another access point by just estimating coverage from the calculated physical positions of each radio and stats about nearby interference (para. 86).

It would have been *prima facie* obvious to one of ordinary skill in the art at the

time of the invention was made to modify the dual mode data communications of Gorsuch and the data rate selection method of Ryan to be able to determine an overloaded access point as taught by Jeong. One skilled in the art would have been motivated to make the combination to promote load balancing (Barber, para. 86).

Response to Arguments

5. Applicant's arguments with respect to claims 1-25 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY SOL whose telephone number is (571)272-5949. The examiner can normally be reached on M-F 7:30am - 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached on (571) 272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2619

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Wing F. Chan/
Supervisory Patent Examiner, Art Unit 2619
6/6/08

/A. S./
Examiner, Art Unit 2619
6/11/2008